COMPARATIVE PHYSIOLOGY
(HBSc)
Department of Biology

Physiology is the study of living matter and its interaction between internal and external environments. It integrates physical and life sciences in order to understand body functions and the origins of disease in both plants and animals. This discipline incorporates the study of control mechanisms, compensations, and cooperation among body molecules, cells, tissues, and organs. Physiology unifies the life sciences from molecule to organism, providing the link from genomics and molecular signaling pathways to behaviour and disease. Emerging fields for physiologists are the analysis of the functional implications of genomic sequence variation, developmental factors leading to chronic illness, and novel approaches for regenerative medicine. Physiologists find applications for their work in agriculture, veterinary medicine, military research, air and space travel, and exercise and fitness.

MAKE THE MOST OF YOUR TIME AT UTM!

We want to help you maximize your university experience, so we’ve pulled together information and interesting suggestions to get you started. As you review the chart on the inside pages, note that many of the suggestions need not be restricted to the year they are mentioned. In fact, activities such as joining an academic society, engaging with faculty and seeking opportunities to gain experience should occur in each year of your study at UTM. Read through the chart and create your own plan using My Program Plan found at www.utm.utoronto.ca/program-plans

Programs of Study (POST)

- Specialist Program ERSPE0482 Comparative Physiology (Science)
- Minor Program ERMIN2364 Biology (Science)
- Minor Program ERMIN0840 Biomedical Communications (Science)

Check out...

How do plants respond to environmental factors and global change? Find out in BIO312H5 through the physiological study of plants. Get excited about vertebrate form and function! In BIO354H5 the design and adaptive consequences of vertebrate structure are revealed.

What can I do with my degree?

The career you choose will depend on your experience and interests. Visit the Career Centre to explore your career options.

Careers for Graduates: Physiotherapist; Ornithologist; Informationist; Biological technician; Zoologist; Doctor; Physician’s assistant; Nurse; Research technician; Health policy analyst; Herbarium technician.

Workplaces: Government; Zoos; Aquariums; Pharmaceuticals; Academic medical centres/laboratories; Manufacturing; Hospitals and medical centres.
# COMPARATIVE PHYSIOLOGY

## SPECIALIST Program Plan

### HOW TO USE THIS PROGRAM PLAN

Read through each year. Investigate what appeals to you here and in any other Program Plans that apply to you.

Visit [www.utm.utoronto.ca/program-plans](http://www.utm.utoronto.ca/program-plans) to create your own plan using My Program Plan.

Update your plan yearly.

### 1ST YEAR

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIO150H5, 153H5, CHM110H5, 120H5, and MAT134Y5/135Y5/137Y5. Attain 1.0 credit from the second list of required first year courses in the Academic Calendar.</td>
<td>Choose a program of study (Subject POSt) once you complete 4.0 credits. Use the Degree Explorer Planner and the Academic Calendar to plan your degree. Start strong and get informed with utmONE and LAUNCH through the Office of Student Transition. Join a RGASC Peer Facilitated Study Group.</td>
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### 2ND YEAR

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<td>BIO202H5, 203H5, 209H5, 206H5, 207H5, 210Y5, and STA213H5.</td>
<td>Work in a foreign lab through the IRP program. Speak to the IEC Global Mobility Coordinator to learn more. Prefer staying local? Apply for ROP courses BIO299Y and BIO399Y. Visit the EEO website for ROP Course Prerequisites. Attend the RGASC P.A.R.T. to enhance your research skills.</td>
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### 3RD YEAR

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<tr>
<td>BIO304H5, 310H5, 312H5, 360H5, 409H5, CHM242H5 and 243H5.</td>
<td>Attain 2.0 credits from a list in the Academic Calendar. Throughout your undergraduate degree: • use the Degree Explorer to ensure you complete your degree and program requirements. • see the Office of the Registrar about degree requirements and the Biology Undergraduate Advisor about program requirements.</td>
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### 4TH OR FINAL YEAR

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<tr>
<td>1.0 additional BIO credits. Ensure you have at least 5.0 credits at the 300/400 level, of which 1.0 must be at the 400 level.</td>
<td>Apply to the Ontario Ministry of Natural Resources Internship Program as a recent graduate. Look at the MNRF website for eligibility and application details.</td>
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*Consult the Academic Calendar for greater detail on course requirements, program notes and degree requirements.**

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*Update your plan yearly.*

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**HOW TO USE THIS PROGRAM PLAN**

Read through each year. Investigate what appeals to you here and in any other Program Plans that apply to you.

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Update your plan yearly.

### 1ST YEAR

**PLAN YOUR ACADEMICS**

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<td>Enrol in courses BIO150H5, 153H5, CHM110H5, 120H5, and MAT134Y5/135Y5/137Y5. Attain 1.0 credit from the second list of required first year courses in the Academic Calendar. Choose a program of study (Subject POSt) once you complete 4.0 credits. Use the Degree Explorer Planner and the Academic Calendar to plan your degree. Start strong and get informed with utmONE and LAUNCH through the Office of Student Transition. Join a RGASC Peer Facilitated Study Group.</td>
<td>Enrol in courses BIO202H5, 203H5, 209H5, 206H5, 207H5, 210Y5, and STA213H5. Work in a foreign lab through the IRP program. Speak to the IEC Global Mobility Coordinator to learn more. Prefer staying local? Apply for ROP courses BIO299Y and BIO399Y. Visit the EEO website for ROP Course Prerequisites. Attend the RGASC P.A.R.T. to enhance your research skills.</td>
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### 2ND YEAR

**BUILD SKILLS**

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<td>Use the Co-Curricular Record (CCR). Search for opportunities beyond the class room, and keep track of your accomplishments. Attend the Get Experience Fair through the Career Centre (CC) to learn about on- and off-campus opportunities. Ask your professor about volunteering in their lab.</td>
<td>Use the Career Learning Network (CLN) to find postings for on- and off-campus work and volunteer opportunities as well as Work-Study. Do you have a professor you really like or connect with? Ask them a question during office hours. Discuss an assignment. Go over lecture material. Don’t be shy! Learn Tips On How to Approach a Professor available through the Experiential Education Office (EEO).</td>
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### 3RD YEAR

**BUILD A NETWORK**

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<td>Networking simply means talking to people and developing relationships with them. Start by joining the Erindale Biology Society (EBS). Follow them @utmEBS. Go to the EBS Meet the Prof Night, or the Biology department’s Walk with your Professor. Visit the UTM Library Reference Desk.</td>
<td>Enroll in courses BIO202H5, 203H5, 205H5, 206H5, 207H5, 210Y5; and STA213H5. Attend events held by the Erindale Biology Society (EBS) and the Biology Seminar Series. Conducting research into health and hygiene. Ask your research skills.</td>
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### 4TH OR FINAL YEAR

**BUILD A GLOBAL MINDSET**

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<tr>
<td>Attend events held by the International Education Centre (IEC) to explore different cultures through food, music, and sport or through sight-seeing around the GTA.</td>
<td>Attend the University of Toronto Abroad Co-Curricular Experience (ROP) Course to Peru in our BIO210Y5 class through the IEC. Travel with a faculty member and work alongside local partners conducting research into health and hygiene. Prefer traveling in Canada? Check out the IEC’s UTM Across Canada program.</td>
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**PLAN FOR YOUR FUTURE**

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<tr>
<td>Attend the Program Selection &amp; Career Options workshop offered by the Office of the Registrar and the CC.</td>
<td>Attend the CC workshop Now That I’m Graduating What’s Next? Write a strong application for future education. Consider further education? Attend the CC’s Mastering the Personal Statement workshop.</td>
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*Consult the Academic Calendar for greater detail on course requirements, program notes and degree requirements.*

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*Revised on: 9/12/2017*
Skills developed in Comparative Physiology

To be competitive in the job market, it is essential that you can explain your skills to an employer. Visit the Career Centre to learn how to articulate and market the following skills:

Communication & interpersonal: write scientific reports; present research findings; interact professionally with a multidisciplinary team of researchers, technicians, students and professors; and literacy writing.

Research: collect and preserve field organisms; dissect preserved or euthanized specimen; inspect specimens; and analyze and evaluate information.

Technical: use specialized computer programs; perform laboratory procedures; maintain laboratory equipment and instrumentation; and comply with quality control procedures.

Quantitative: analyze data for trends and apply statistical tests to data.

Critical thinking & problem-solving: logically interpret trends and results.

Get involved

Check out student organizations on campus. Here are a few:

- Erindale Biology Society (EBS)
- UTM Student Union (UTMSU)
- UTM Athletics Council (UTMAC)

For a listing of clubs on campus visit www.utm.utoronto.ca/clubs.

Services that support you

- AccessAbility Services (AS)
- Career Centre (CC)
- Centre for Student Engagement (CSE)
- Experiential Education Office (EEO)
- Health & Counselling Centre (HCC)
- Indigenous Centre (IC)
- International Education Centre (IEC)
- Office of Student Transition (OST)
- Office of the Registrar (OR)
- Recreation, Athletics and Wellness Centre (RAWC)
- Robert Gillespie Academic Skills Centre (RGASC)
- UTM Library, Hazel McCallion Academic Learning Centre (HMALC)

Department of Biology

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University of Toronto Mississauga
3359 Mississauga Rd
Mississauga ON Canada L5L 1C6

Undergraduate Advisor: 905-828-3999
d.matias@utoronto.ca
www.utm.utoronto.ca/biology

FUTURE STUDENTS

Admission to UTM

All program areas require an Ontario Secondary School Diploma, or equivalent, with six Grade 12 U/M courses, or equivalent, including English. The admission average is calculated with English plus the next best five courses. The Grade 12 prerequisites for this program are Advanced Functions, Biology and Chemistry. The approximate average required for admission is low- to mid-80s. More information is available at utm.utoronto.ca/viewbook.

NOTE: During the application process, applicants will select the Life Sciences admissions category, but will not officially be admitted to a formal program of study (Specialist, Major, and/or Minor) until after first year.

Sneak Peek

Curious about animal physiology? Discover the diversity of structure and function in animals in BIO202H5. At UTM, Physiology explores a variety of topics, such as endocrinology, cardiovascular physiology, neurophysiology, and sensory physiology.

Effective biological training involves careful study of real organisms, both living and dead. Almost all Biology courses with laboratories involve students in one or more of the following activities with animals, plants, and/or microorganisms: collecting and preserving organisms from the field; dissecting or handling preserved or euthanized specimens (or properly anaesthetized living specimens); observing and making measurements on organisms maintained under laboratory conditions approved by the Canadian Council of Animal Care.

Student Recruitment & Admissions

Innovation Complex, Room 1270
University of Toronto Mississauga
3359 Mississauga Rd
Mississauga ON Canada L5L 1C6

905-828-5400
www.utm.utoronto.ca/future-students